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ABSTRACT

This trainer's guide is intended to assist supervisors of work-based career training projects in helping students integrate the daily recording of milk yields with computer analyses of records and interpretation of the results. The guide is one in a series of core curriculum modules that is intended for use in combination on- and off-the-job programs to familiarize youth with the skills, knowledge, and attitudes necessary for success in the workplace. Included in the guide are the following components: notes on computer literacy, project information, a summary of the content and approach of the guide, supervisor's notes, background information, lists of tasks and core skills, an action plan that includes suggested learning activities, supervisor and trainee review sheets, and an assessment form. (KC)

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Youth Training Scheme

CORE EXEMPLAR WORK BASED PROJECT

ED265329

Recording milk yield on a microcomputer system

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OTF No: 2

PROJECT No: S|22

TYPE Individual

ESF
CORE SKILLS PROJECT
YTS

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ASSESSMENT OF CORE SKILLS

This series of projects contains a number of different formats for recording assessment of core skills. These formats are offered for experimental purposes; none is proven as the 'best' method. All are based on the principle that feedback to trainees is a necessary part of the learning process and that such feedback should include information on core skill development.

Further work is being carried out on the methods of assessing achievement of core skills in work-based learning and of how to log such achievement on a record which trainees can take away from YTS. Some of the results of this work will be included in later MSC/ESF Core Skills Project publications.

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INTRODUCTION

WHAT ARE WORK-BASED PROJECTS?

Work-based projects are learning materials which aim to make the most of all the possibilities for developing trainees' skills, knowledge and attitudes in the workplace. They build upon everyday workplace tasks to provide experience of the whole range of YTS learning opportunities.

The projects in this series have been tested with managing agents as part of the YTS Core Project, which is jointly financed by MSC and the European Social Fund. In some cases managing agents will be able to use the projects as they are. In others they will need to be adapted to the circumstances of a particular workplace or to the aims of a particular scheme. Some managing agents will prefer to produce their own projects. For such cases these examples aim to demonstrate some principles of good design in work-based learning materials. These principles are:

To encourage trainees to learn by doing
To make the most of all the experiences which are available to trainees in the workplaces.
To start from a real task which is seen as relevant by all parties involved — trainees, workplace supervisors, trainers and off-the-job tutors.
To help trainees see the relationships between things learnt on- and off-the-job.
To base the assessment of achievement upon trainees' actual performance in tasks.
To look for all the opportunities for learning which arise from a task and, in particular, to help trainees to develop the core skills. These skills, in number, communication, problem-solving and practical activities, are used in a wide variety of tasks and are essential if trainees are to achieve competence in those tasks*. They are the skills — of finding out information, planning how to do things, overcoming difficulties and so on — which help trainees to learn more quickly in new situations, either in the same workplace, in a different one, or in the world outside work.

Such skills are required naturally by the workplace tasks in these projects and, in requiring trainees to go beyond the task itself, the projects deliberately *add* to the range of core skills which are required in an everyday working situation. This is especially important for some of the skills of communication and problem-solving which trainees are often not given the opportunity to exercise in work experience.

These principles can be incorporated in projects for all placements and for trainees of all ability levels. Although the projects in this series follow a common format, there is no single 'best' style. Nor is any special expertise in writing necessary. Good work-based projects can be produced by anyone who is determined to help trainees to exploit all of the potential for learning in work experience.

*A technical manual 'Core Skills in YTS' is currently available from MSC. It is supported by a short introductory leaflet and a practitioner's guide for supervisors. A separate manual is available on computer literacy/information technology.

NOTES ON COMPUTER LITERACY

(1) This Project assumes the trainee has some operational and keyboard skills. For example, it is assumed that the trainee can start up the system, use the keyboard, operate peripheral devices, and load files. It also assumes that there has been previous experience of appropriate software.

(2) It is suggested that many of the operational and file handling skills are best acquired in the context of games and personal software applications, and not learned in isolation from hands-on experience. Experience on as wide a range of hardware and software as possible should be provided, to encourage transferability of these skills.

(3) This and related Projects are intended to be used as a means to consolidate and develop these skills, in applications which are relevant to a wide range of Occupational Training Families.

(4) These Projects are generalised - that is, they are not specific to particular hardware or software. They should, therefore, be interpreted and implemented in relation to the systems available.

PROJECT INFORMATION

SUBJECT CHOICE: "RECORDING MILK YIELD ON A MICROCOMPUTER SYSTEM"

This Project is intended to integrate the daily recording of milk yields with computer analysis of records and interpretation of the results of the analysis.

WHERE IT CAN BE USED/COULD BE USED:

This Project could be used on-the-job if the necessary computer resources are available; or in an off-the-job computer literacy element by using records previously collected on-the-job.

STAGE(S) IN TRAINING PROGRAMME THE PROJECT WAS/COULD BE USED:

It is not advised that this Project be used as a basic introduction, since it assumes previous knowledge and skill.

LINK UP WITH OTHER WORK-BASED PROJECTS:

The introductory Project "Using a Microcomputer System" could be used before this. Other Projects using a modelling program are "Monitoring Horticultural Crop Returns" and "Calculating the Profitability of Christmas Turkeys".

SPECIAL CIRCUMSTANCES:

The Project requires the trainee to have had prior experience of hardware and a demonstration of the software appropriate to this task.

ADAPTATIONS/MODIFICATIONS:

The Project is written so that it is not dependent on particular computer hardware. The software used could be a specialist package or an adapted spreadsheet package preferably integrated with a graph-plotting routine.

USE OF OFF-THE-JOB TUTOR:

This Project could be completed in the workplace, or in an off-the-job situation using data collected on-the-job.

SUMMARY

This Project asks the trainee to:

- collect and record milk yield data and use it to update a magnetic file; display graphs;
- relate these to a standard lactation curve;
- identify unusual effects and consider possible causes;
- suggest ways of improving milk yield or the milk yield recording system.

SPECIAL FEATURES

Prior experience of hardware and software is assumed.

SUPERVISOR'S NOTES

Before this Project is carried out, the trainee should be able to operate a microcomputer system and have seen a demonstration of the program which is used to record and graph milk yields.

If possible, the Project should be based on data which has been collected by the trainee. Alternatively, you could provide data on record sheets covering a period of weeks; or a magnetic file which has to be updated from record sheets.

The decision as to how many cows are to be recorded and for how long a period should be made in relation to the trainee's interest and ability and practical factors. If possible, select cows or circumstances which are likely to produce unusual data.

Make sure that the trainee understands the arrangements for data entry; which equipment and files are to be used etc., monitoring progress as necessary.

Check that appropriate printout/graphs have been produced and that the FINISHING section has been completed.

Discuss with the trainee examples of unusual effects in yield and possible causes, trying to expand on any ideas noted or suggesting other sources of information (e.g. a herdsman's diary) rather than providing the answers for the trainee.

Similarly, discuss and expand on suggested ways of improving yields (e.g. changing feed patterns, improved breeding) or the recording system (e.g. data capture devices, flowmeters.)

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NAMES

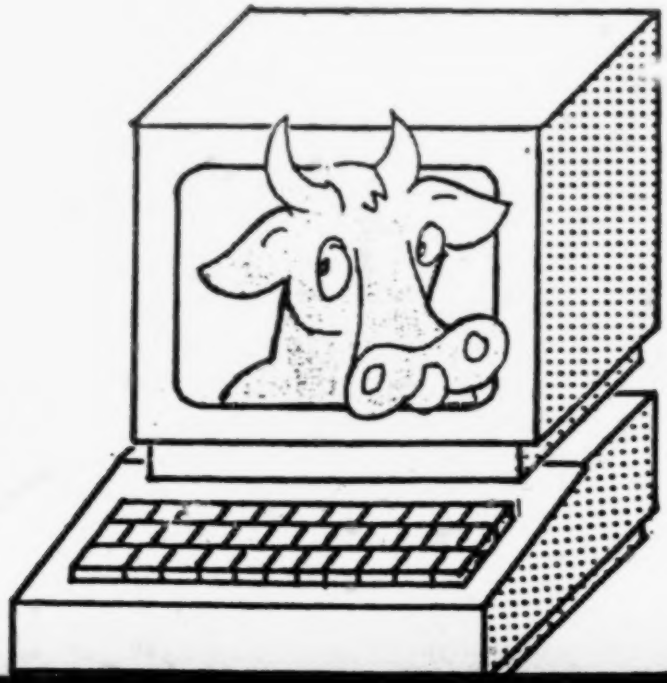
Trainee _____

Supervisor _____

TIMES

Fill in the table below. This will show the time you spend on this Project. The first column has been filled in as an example. Make another table if you need more space.

Date	9/4/84					
Start	9·30					
Finish	12·30					TOTAL
Time Spent	3 hours					



BACKGROUND

Dairy cows are fed according to yield - extra feed must produce higher yields or the extra money is wasted.

Recording the milk yield from each cow helps you to:

identify good and bad milkers;

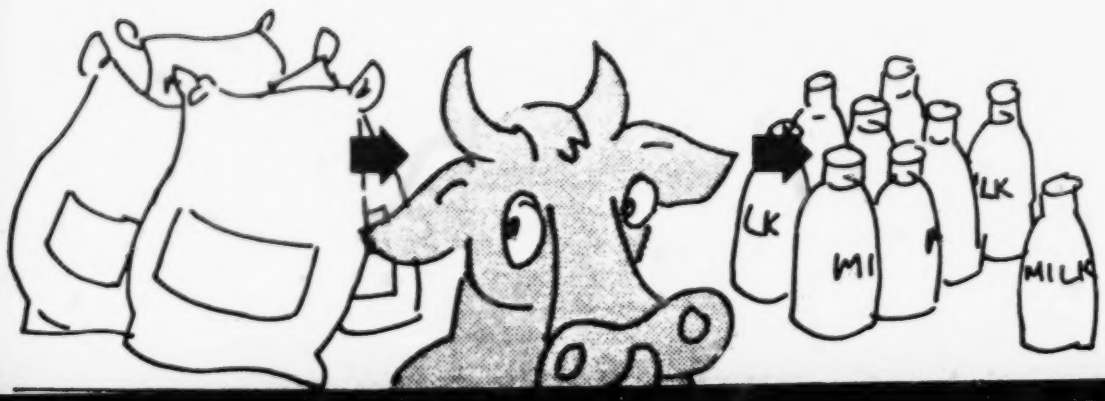
calculate the total yield for the herd;

get the yield levels right;

get early warning of a sudden lowering of yield.

SITUATION

The work area where milk yields are entered into a mi computer system.



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PURPOSES

Doing this Project will help you to learn more about your work. It will also help you to develop your Core Skills (Number, Communication, Problem Solving, Practical and Computer Literacy Skills). Increasing your competence in these skills will make it easier to learn new work skills, change jobs, and retrain when the need arises.

The activities that you will be asked to carry out are li ed below, along with the main Core Skills that they contain. These Core Skills are also listed on the "Project Record " Form at the end of the Action Plan and your Supervisor should assess your achievements in these skills as you complete the Project. This record will be needed to complete your Certificate at the end of your YTS Year.

To help you to:	Core Skills:
start up, operate and close down a microcomputer system	12.6 carry out start up procedures 13.4 operate and control equipment 14.1 carry out procedures to turn off equipment
interpret data and graphs used to record milk yield	interpret numerical data or symbols in written or printed form 2.2 interpret diagrams and pictorial representations
compare yields from different cows	1.4 compare numerical information from different sources
decide how milk yields or the milk yield recording systems could be improved	10.3 decide between alternative courses of action
follow appropriate safety procedures	13.1 adopt safe working practices
use a spreadsheet program to compare milk yields and lactation curves	C L. use a modelling package
handle magnetic files	C.L. load and save magnetic files

Please read the questions asked in the Trainee Review ection.

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ACTION PLAN

ead through this Action Plan carefully before you start.

REPARATION

o carry out this Project, you should already have used a omputer system and have seen a demonstration of the progra hich is used to record and graph milk yields.

ou also need to understand the daily record sheets whic are pt of milk yields for each cow, so that you can enter them ccurately into the computer. If possible, you should collect he data for these records yourself, but you could use data which as been collected for you.

ake sure that you understand what the entries in the records ean, and which data is entered into the computer.

COW ID	DATE	YIELDam	YIELDpm	TOTAL

Project will be used to display graphs over a period of eral weeks. If records for previous weeks are not already on puter file, you will need to enter them.

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Discuss with your Supervisor:

- the date from which you are to start entering data;
- how many cows you are to enter data for;
- which equipment and magnetic files (program and data) you are to use;
- the period for which data is to be entered (for example, daily, weekly, or two-weekly).
- the printout that will be required - for example:

  for part of or for the whole herd?

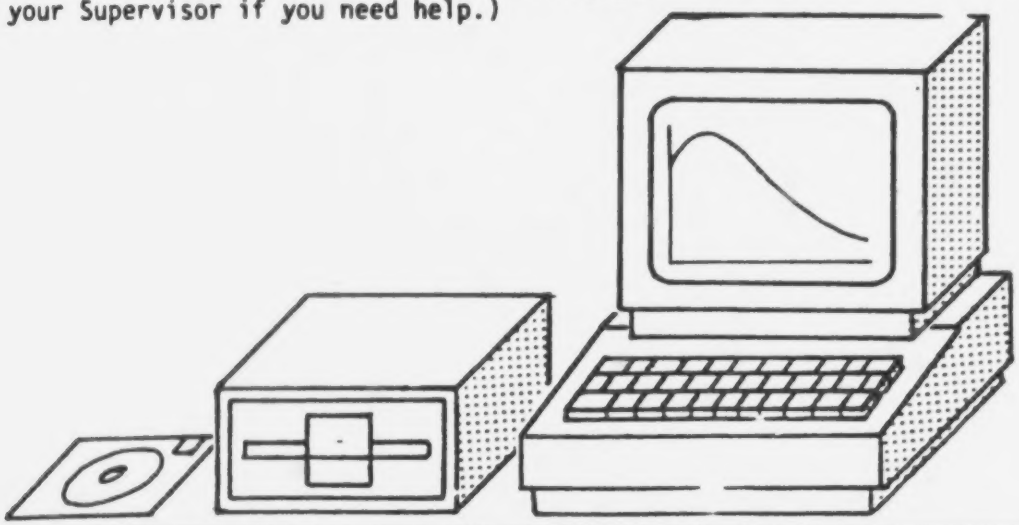
  for part of or for the whole period?

Use a sheet of paper to make notes if you need more space.

LACTATION CURVES 6

If you are to recognize sudden or gradual changes in yield, you need to know what is the standard pattern for yield throughout a lactation. Some programs will display this standard curve for comparison with curves for individual cows or the entire herd.

Make sure that you can recognize a standard lactation curve so that you can compare it with the curves produced by your records. (Ask your Supervisor if you need help.)



UPDATING

Set up, or check your equipment, making sure that it can be used safely.

Load the software and data file.

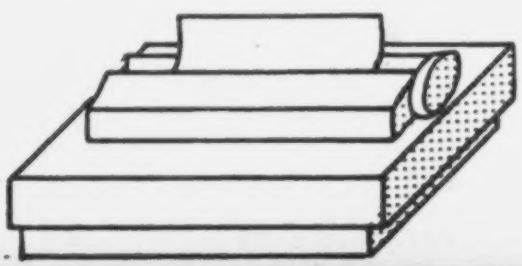
Enter the data for each cow, over the period agreed with your Supervisor. The updated records should then be saved on the magnetic file.

(If a backup copy of the file is normally taken, make the copy by the usual routine.)

PRINTING

Check that the stationery you need is properly inserted in the printer.

Give the commands to the system to produce the required printout.



DEVELOPMENT

8

Can you think of any possible causes for unusual changes in milk yield? For example, has there been a change in the feeding pattern of a cow or the herd?

Write down examples of unusual effects and their possible causes.

EFFECT	POSSIBLE CAUSE

Can you suggest any ways of improving:

milk yields?

the milk yield recording system?

When you have finished this Project, discuss your results with your Supervisor.

BEFORE YOU START

How long do you think it will take to carry out this Action Plan?

WHEN YOU HAVE FINISHED

How long did it take to carry out the Action Plan?

Was this more/less than you estimated?

Why?

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TRAINEE REVIEW

These questions may help you to decide what to write.

What did you learn? Remember the PURPOSES or things that you could have learned are listed on Page 3.

Were any parts of the Action Plan too difficult? Which ones? What did you do?

Were any parts too easy? Which ones?

What was the most interesting part of the Action Plan and why?

How could you follow up this Project? Does it connect with other Projects that you have done?

How could you use what you have learned in this Project in the future?

SUPERVISOR REVIEW

10

lease refer to Supervisor's Notes.

lease read the questions included under Trainee Review.

lease complete the Project Record Form and discuss your
ssessment with the trainee before initialling it to show that
ou both agree with the assessment.

OMMENTS:

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PROJECT RECORD FORM

PROJECT TITLE RECORDING MILK YIELD ON A MICROCOMPUTER SYSTEM WBP NO S/53 DATE

TRAINEE'S NAME SUPERVISOR'S NAME

WORK BASED PROJECT		NEEDED A LOT OF ASSISTANCE	NEEDED SOME ASSISTANCE	LITTLE OR NO ASSISTANCE		FURTHER TRAINING NEEDED	COMMENTS INCLUDING NO OPPORTUNITY	AGREED INITIALS	
TASK NO	CORE SKILLS ASSESSED			NEEDS MORE PRACTICE	COMPETENT			TRAINEE	SUPERVISOR
	starting up a microcomputer system 12.6								
	operating a microcomputer system 13.4								
	closing down a microcomputer system 14.1								
	Comparing numerical information from different cows 1.4								
	Deciding between alternative courses of action 10.3								
	interpreting diagrams showing milk yields 2.2								
	interpreting numerical data on milk yields 2.1								
	Using a modelling package C.L.								
	Loading and saving magnetic files C.L.								